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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/811,239 | 03/16/2001 | Kenneth Hsu | 10386-007-999 | 8261 |

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EXAMINER

STEVENS, THOMAS H

ART UNIT PAPER NUMBER

2123

DATE MAILED: 06/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/811,239

Applicant(s)

HSU ET AL.

Examiner

Thomas H. Stevens

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2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>(2) 7/23/02</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-24 are examined.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1-24 are rejected under 35 U.S.C. 102(a) as being anticipated by Malis et al., ("SONET/SDH Circuit Emulation Service over MPLS (CEM) Encapsulation" (February 2001)).

Malis et al. teaches a method for encapsulating time division multiplexed (TDM) digital signals (TDM circuit emulation) for transmission over a packet-oriented MPLS network (pg. 1, Introduction, lines 1-2).

Claim 1. A method for circuit emulation over a multi-packet label switching (MPLS) network, comprising the steps of: receiving a time division multiplexed data stream at an ingress end; dividing said data stream into a set of fixed sized packets; adding a service header to each of said packets; adding an additional header on top of said service header in accordance with MPLS protocols; removing said additional header after each packet has been processed by said MPLS network; and using said service header to recover said data stream at an egress end (pg. 2, Introduction, 1st paragraph).

Claim 2. The method of claim 1, further comprising the steps of: monitoring said data stream; and attaching an alarm bit in a service header of a subsequent packet if a break in said data stream is detected (pg.5 2nd paragraph).

Claim 3. The method of claim 1, further comprising the steps of: using a structure pointer in said service header to indicate whether a header byte in a synchronous payload envelope is present within a packet, said structure pointer indicating the location of said header byte in said packet (pg. 3, figure 1 and lines 28-32).

Claim 4. The method of claim 3, further comprising the step of: reserving a pointer value indicating that said header byte is not present within said packet (pg. 3, figure 1, lines 10 and 28-32).

Claim 5. The method of claim 1, further comprising the steps of: recording a stuffing time difference in a service header at said ingress end; and implementing said stuffing time difference at said egress end (pg. 4, lines 6-7).

Claim 6. The method of claim 1, further comprising the steps of: (a) storing a first set of frames into a data buffer; (b) calculating a first data average of said first set of frames in said data Buffer (pg. 7, section 8.0) to obtain a threshold value; (c) storing a next set of frames into said data buffer; (d) calculating a next data average of said next set of

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frames in said data buffer (pg. 7, section 8.1); (e) comparing said next data average to said threshold value; (f) if said next data average is greater than said threshold value: (1) generating a negative justification indicator; and (2) sending one more byte at said egress end; (g) if said next data average is less than said threshold value: (1) generating a positive justification indicator; and (2) sending one less byte at said egress end; and (h) repeating said steps (c)-(g) (pgs 4-5, section 6.1, 6.2, 7.0).

Claim 7. The method of claim 1, further comprising the steps of: checking a sequence counter in said service header of each packet in said set of packets; locating at least one header byte in said set of packets (pg. 4,7, sections 7.0, 8.0, respectively); measuring all bytes between two header bytes; and pushing said set of packets into a frame.

Claim 8. The method of claim 1, further comprising the steps of: checking a sequence counter in said service header of each packet in said set of packets to determine if all packets are present sequentially; and inserting a dummy packet if a packet is missing in said set of packets (pg. 4, section 6.1).

Claim 9. The method of claim 8, further comprising the steps of: receiving an out of sequence packet; and discarding said out of sequence packet (pg. 4, section 6.1).

Claim 10. The method of claim 1, further comprising the steps of: checking a sequence counter in said service header of each packet in said set of packets to determine if all packets are present sequentially; terminating a current connection if multiple packets are missing in said set of packets; discarding said set of packets; and establishing a new connection to begin receiving packets (pg. 4 and 5, section 7.0).

Claim 11. The method of claim 1, further comprising the steps of: checking a sequence counter in said service header of each packet in said set of packets to determine if all packets are present sequentially; and establishing an in-frame condition after said set of packets are received in sequence (pg. 4, section 6.1).

Claim 12. The method of claim 11, further comprising the steps of: determining whether said in-frame condition is valid; and terminating a current connection if said in-frame condition is not valid (pg. 4-5, section 7.0).

Claim 13. A computer program product for circuit emulation over a multi-packet label switching (MPLS) network, comprising: logic code for receiving a time division multiplexed data stream at an ingress end; logic code for dividing said data stream into a set of fixed sized packets; logic code for adding a service header to each of said packets; logic code for adding an additional header on top of said service header in accordance with MPLS protocols; logic code for removing said additional header after each packet has been processed by said MPLS network; and logic code for using said

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service header to recover said data stream at an egress end (pg. 2, Introduction, 1st paragraph).

Claim 14. The computer program product of claim 13, further comprising: logic code for monitoring said data stream: and logic code for attaching an alarm bit in a service header of a subsequent packet if a break in said data stream is detected (pg.5 2nd paragraph).

Claim 15. The computer program product of claim 13, further comprising: logic code for using a structure pointer in said service header to indicate whether a header byte in a synchronous payload envelope is present within a packet, said structure pointer indicating the location of said header byte in said packet (pg. 3, figure 1 and lines 28-32).

Claim 16. The computer program product of claim 1, further comprising: logic code for reserving a pointer value indicating that said header byte is not present within said packet (pg. 4, section 7.0, 1st paragraph).

Claim 17. The computer program product of claim 13, further comprising: logic code for recording a stuffing time difference in a service header at said ingress end; and logic code for implementing said stuffing time difference at said egress end (pg.4, lines 6-7).

Claim 18. The computer program product of claim 13, further comprising: (a) logic code for storing a first set of frames into a data buffer; (b) logic code for calculating a first data average of said first set of frames in said data buffer (pg.7, section 8.0) to obtain a threshold value; (c) logic code for storing a next set of frames into said data buffer; (d) logic code for calculating a next data average of said next set of frames in said data buffer; (e) logic code for comparing said next data average to said threshold value; (f) if said next data average is greater than said threshold value: (1) logic code for generating a negative justification indicator; and (2) logic code for sending one more byte at said egress end; (g) if said next data average is less than said threshold value: (1) logic code for generating a positive justification indicator; and (2) logic code for sending one less byte at said egress end; and (h) logic code for repeating said (c)-(g) (pgs. 4-5, section 6.1, 6.2,7.0).

Claim 19. The computer program product of claim 13, further comprising: logic code for checking a sequence counter in said service header of each packet in said set of packets; logic code for locating at least one header byte in said set of packets; logic code for measuring all bytes between two header bytes; and logic code for pushing said set of packets into a frame (pg. 4, section 6.1).

Claim 20. The computer program product of claim 13, further comprising: logic code for checking a sequence counter in said service header of each packet in said set of

packets to determine if all packets are present sequentially; (pg. 12, appendix B) and logic code for inserting a dummy packet if a packet is missing in said set of packets.

Claim 21. The computer program product of claim 20, further comprising: logic code for receiving an out of sequence packet; and logic code for discarding said out of sequence packet (pg. 13, lines 12-30).

Claim 22. The computer program product of claim 13, further comprising: logic code for checking a sequence counter in said service header of each packet in said set of packets to determine if all packets are present sequentially (pg. 4, section 6.1); logic code for establishing an in-frame condition after all packets for a frame are received in sequence; logic code for terminating a current connection if multiple packets are missing in said set of packets (pg. 5, 1st paragraph); logic code for discarding said set of packets; and logic code for establishing a new connection to begin receiving packets (pg. 4, section 7.0).

Claim 23. The computer program product of claim 22, further comprising: logic code for checking a sequence counter in said service header of each packet in said set of packets to determine if all packets are present sequentially (pg. 4,7, sections 7.0, 8.0, respectively) and logic code for establishing an in-frame condition after the set of packets are received in sequence.

Claim 24. The computer program product of claim 23, further comprising: logic code for determining whether said in-frame condition is valid; and logic code for terminating a current connection if said in-frame condition is not valid (pg. 4-5, section 7.0).

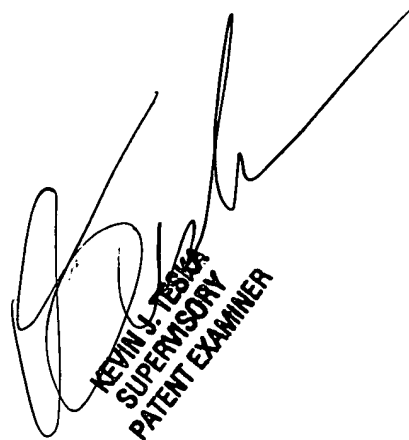
Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom Stevens whose telephone number is (703) 305-0365, Monday-Friday (8:30 am- 5:30 pm) or contact Supervisor Mr. Kevin Teska at (703) 305-9704. The fax number for the group is 703-872-9306.

Any inquires of general nature or relating to the status of this application should be directed to the Group receptionist whose phone number is (703) 305-3900.

May 21, 2004

THS



KEVIN J. TESKA
SUPERVISORY
PATENT EXAMINER